

## ABSTRACT OF DISCLOSURE

A method and system of monitoring a processing system and for processing a substrate during the course of semiconductor manufacturing. As such, data is acquired from the processing system for a plurality of observations, the data including a plurality of data parameters. A principal components analysis (PCA) model is constructed from the data and includes centering coefficients. Additional data is acquired from the processing system, the additional data including an additional observation of the plurality of data parameters. The centering coefficients are adjusted to produce updated adaptive centering coefficients for each of the data parameters in the PCA model. The updated adaptive centering coefficients are applied to each of the data parameters in the PCA model. At least one statistical quantity is determined from the additional data using the PCA model. A control limit is set for the statistical quantity and compared to the statistical quantity.